

Notice of Allowability

Application No.

09/603,355

Applicant(s)

WANG ET AL.

Examiner

Art Unit

Phirin Sam

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 07/15/2004.
2. ☒ The allowed claim(s) is/are 1,4-22,24-29,32-34,46 and 48-53.
3. ☒ The drawings filed on 26 June 2000 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some* c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |



PHIRIN SAM
PRIMARY EXAMINER

DETAILED ACTION

Allowable Subject Matter

1. The following is an examiner's statement of reasons for allowance:

Regarding amended claims 1, 4, and claims 5-14, prior arts of record do not disclose a method of routing packets intended to be transmitted across a network link protected by a protection path defined by a closed loop of nodes and links through the network, the method comprising a combination of steps:

- (1) determining whether the protected link has failed; and if the protected link has not failed, sending the packets across the protected link; otherwise, encapsulating the packets within tunnel packets and sending the tunnel packets along the protection path;
- (2) wherein the source and destination nodes associated with each tunnel packet correspond to the nodes at either end of the protected link.

Regarding claims 15-21, the prior arts of record do not disclose a method of routing packets received along a network link by a node, each said received packet being associated with a source node and a destination node, the method comprising a combination of steps:

- (1) if the destination node associated with the received packet is the current node and if the received packet is a tunnel packet, retrieving the encapsulated packet from the received packet and forwarding it based on the destination node associated with the encapsulated packet;
- (2) if the destination node associated with the received packet is not the current node and if the received packet is a tunnel packet, determining the identity of a protection path along which the tunnel packet was received and forward the received packet along a next link in that protection path.

Regarding amended claims 22, 24, and claims 25-28, the prior arts of record do not disclose a method of switching traffic in a packet-switched network having a plurality of nodes interconnected by links, the method comprising a combination of steps:

- (1) upon detection of a failure of a link connecting a pair of adjacent nodes, encapsulating packets within the bodies of tunnel packets and forwarding the tunnel packets along a predefined protection path which bypasses the failed link. including upon receipt of a tunnel packet by one of the adjacent nodes along a protection path, the recipient node retrieving the encapsulated packet and routing it as a function of a destination specified in the header of the encapsulated packet.

Regarding amended claims 29, 32, and claims 33, 34, the prior arts of record do not disclose a packet-switched network comprising a combination of:

- (1) wherein adjacent connected by a protected link are adapted to detect a failure of the protected link, to encapsulate packets within tunnel packets, to differentiate between tunnel packets and non-tunnel packets and to exchange the tunnel packets via the protection paths; and
- (2) wherein each packet comprises a header specifying the identity of a source node and a destination node associated with the packet and wherein the source and destination nodes associated with each tunnel packet correspond to the nodes at either end of the protect link.

Regarding amended claims 46 and claims 48-53, the prior arts of record do not disclose a data router for routing packets intended to be transmitted across a network link protected by a protection path defined by a close loop of nodes and links through the network comprising a combination of:

- (1) a protection cycle packet manager connected to the data interface for:

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- (2) determining whether the protected link has failed, sending the packets across the protected link if the protected link has not failed; and
- (3) encapsulating the packets within tunnel packets and sending the tunnel packets along the protection path if the protected link has failed; and
- (4) a packeter that converts, in response to failure of a link, affected data packets routed over the failed link into protection cycle packets in the specific protection format.

Conclusion

2. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on Mon-Fri, 8:00AM - 4:30PM.

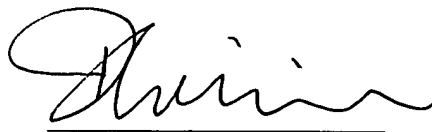
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth N Vanderpuye can be reached on (571) 272 - 3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

Date: October 26, 2004

A handwritten signature in black ink, appearing to read "Phirin", written over a horizontal line.

**PHIRIN SAM
PRIMARY EXAMINER**